ATTTATTTATTTAATCATCTCATATGTGTCTATGTGTTCTGTTTAACCTCAGATCCTTCCACACA
AAGAAAACATACTGCAGAAACAATCGTGATTTCTGTAAGTCAACGGCAAACACCACCCCCGTCTT
AACGGCCAGCAGGAAAAAATGAAGCATATTATCAATTCGTATGAACACACCAATGACACCGCAAG
AAATAACTCCGATTGTCCTGATGTAGTTTTGCCAGAAGAGATATTTTTCACAATCTCTGTCATTG
GCATATTGGAGAACTTGATTGTCCTCCTGGCTGTGATCAAAAATAAAAATCTCCAGTCCCCCATG
TATTTTTTCATCTGCAGTTTGGCCATTTCTGACATGTTGGGCAGTCTGTATAAGATCTTGGAAAA
CATCCTGATCATGTTCAGAAACATGGGTTATCTTAAGCCTCGTGGCAGTTTTGAAAGCACAGCAG
ATGACATCATTGACTGCATGTTCATCCTCTCTTTGCTGGGCTCTATCTTCAGCCTGTCTGTCATT
GCAGCTGACCGTTACATCACCATCTTCCATGCCCTGCAATACCATAGCATTGTGACCATGCGCCG
CACCATCATCACCCTAACAATTATCTGGATGTTCTGCACAGGGAGCGGCATCACCATGGTGATCT
TCTCCCACCACATCCCCACAGTGCTCACCTTCACATCGCTGTTCCCTTTGATGCTGGTTTTTATC
CTGTGTCTCTACATCCACATGTTCTTACTTGCCCGCTCCCATGCTAGGAAGATCTCTACCCTTCC
TAGAACCAACATGAAGGGTGCCATGACACTAACCATCCTTCTTGGAGTCTTCATCTTCTGTTGGG
CCCCCTTTGTGCTCCATGTTCTCTTAATGACCTTCTGCCCAAATAACCCTTACTGTGTTTGCTAC
ATGTCTCTCTTCCAGGTCAATGGCATGTTGATCATGTGCAATGCAGTTATTGACCCCTTTATATA
TGCCTTTCGGAGCCCAGAGCTCAGAGATGCATTCAAAAGGATGCTCTTCTGCAACCGGTATTAGT
AGAATTTTTGATCCCTGCTTTGAGTGTTGTAAAGGGACCAAATAACACATCAGTCTGACA (SEQ
ID NO:1)

MKHIINSYEHTNDTARNNSDCPDVVLPEEIFFTISVIGILENLIVLLAVIKNKNLQSPMYFFICS
LAISDMLGSLYKILENILIMFRNMGYLKPRGSFESTADDIIDCMFILSLLGSIFSLSVIAADRYI
TIFHALQYHSIVTMRRTIITLTIIWMFCTGSGITMVIFSHHIPTVLTFTSLFPLMLVFILCLYIH
MFLLARSHARKISTLPRTNMKGAMTLTILLGVFIFCWAPFVLHVLLMTFCPNNPYCVCYMSLFQV
NGMLIMCNAVIDPFIYAFRSPELRDAFKRMLFCNRY (SEQ ID NO:2)

FIGURE 1

underlined = deleted in targeting construct

Bold = sequence flanking Neo insert in targeting construct

```
ATTTATTTATTTAATCATCTCATATGTGTCTATGTGTTCTGTTTAACCTCAGATCCTTCC
ACACAAAGAAAACATACTGCAGAAACAATCGTGATTTCTGTAAGTCAACGGCAAACACCA
CCCCCGTCTTAACGGCCAGCAGGAAAAAATGAAGCATATTATCAATTCGTATGAACACAC
CAATGACACCGCAAGAAATAACTCCGATTGTCCTGATGTAGTTTTGCCAGAAGAGATATT
TTTCACAATCTCTGTCATTGGCATATTGGAGAACTTGATTGTCCTCCTGGCTGTGATCAA
AAATAAAAATCTCCAGTCCCCCATGTATTTTTTCATCTGCAGTTTGGCCATTTCTGACAT
GTTGGGCAGTCTGTATAAGATCTTGGAAAACATCCTGATCATGTTCAGAAACATGGGTTA
TCTTAAGCCTCGTGGCAGTTTTGAAAGCACAGCAGATGACATCATTGACTGCATGTTCAT
CCTCTCTTTGCTGGGCTCTATCTTCAGCCTGTCTGTCATTGCAGCTGACCGTTACATCAC
CATCTTCCATGCCCTGCAATACCATAGCATTGTGACCATGCGCCGCACCATCATCACCCT
AACAATTATCTGGATGTTCTGCACAGGGAGCGGCATCACCATGGTGATCTTCTCCCACCA
CATCCCCACAGTGCTCACCTTCACATCGCTGTTCCCTTTGATGCTGGTTTTTATCCTGTG
TCTCTACATCCACATGTTCTTACTTGCCCGCTCCCATGCTAGGAAGATCTCTACCCTTCC
TAGAACCAACATGAAGGGTGCCATGACACTAACCATCCTTCTTGGAGTCTTCATCTTCTG
TTGGGCCCCCTTTGTGCTCCATGTTCTCTTAATGACCTTCTGCCCAAATAACCCTTACTG
TGTTTGCTACATGTCTCTCTTCCAGGTCAATGGCATGTTGATCATGTGCAATGCAGTTAT
TGACCCCTTTATATATGCCTTTCGGAGCCCAGAGCTCAGAGATGCATTCAAAAGGATGCT
CTTCTGCAACCGGTATTAGTAGAATTTTTGATCCCTGCTTTGAGTGTTGTAAAGGGACCA
AATAACACATCAGTCTGACA (SEQ ID NO:1)
```

FIGURE 2A

Gene Sequence Structure *

371 bp   Sequence Deleted   796 bp

Size of full-length
cDNA: 1100 bp

Targeting Vector*
(genomic sequence)

LacZ-Neo
Cassette

5' arm   3' arm

5' probe   3' probe

Arm Length:
5': 1.5 kb
3': 3 kb
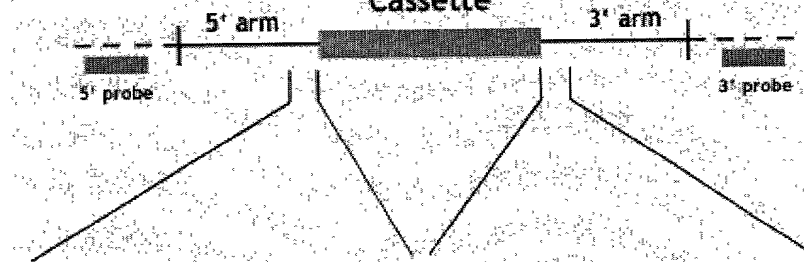
——— Targeting Vector
– – – – Endogenous Locus

* Not drawn to scale

5'>ATGAACACACCAATGACACCG
CAAGAAATAACTCCGATTGTCCTG
ATGTAGTTTTGCCAGAAGAGATAT
TTTTCACAATCTCTGTCATTGGCA
TATTGGAGAACTTGATTGTCCTCC
TGGCTGTGATCAAAAATAAAAATC
TCCAGTCCCCCATGTATTTTTTCA
TCTGCAGTTTGGCCATTTCTGACA
TGTTGGGCAGT<3' (SEQ ID
NO:3)

5'>GGTGCCATGACACTAACCATC
CTTCTTGGAGTCTTCATCTTCTGT
TGGGCCCCCTTTGTGCTCCATGTT
CTCTTAATGACTTTCTGCCCAAAT
AACCCTTACTGTGTTTGCTACATG
TCTCTCTTCCAGGTCAATGGCATG
TTGATCATGTGCAATGCAGTTATT
GACCCCTTTATATATGCCTTTCGG
AGCCCAGAGCT<3' (SEQ ID
NO:4)

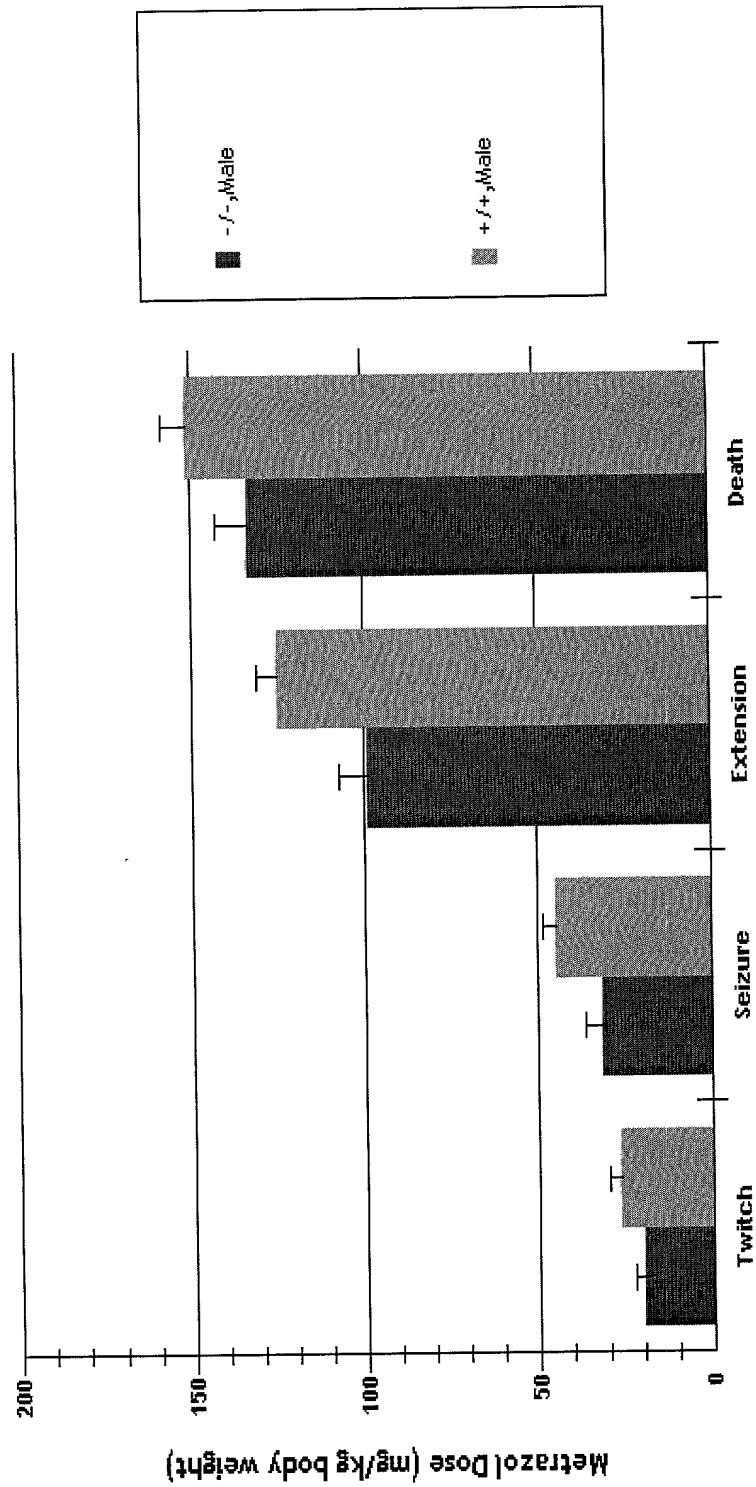## FIGURE 2B

Metrazol Dose to Reach Seizure Stages

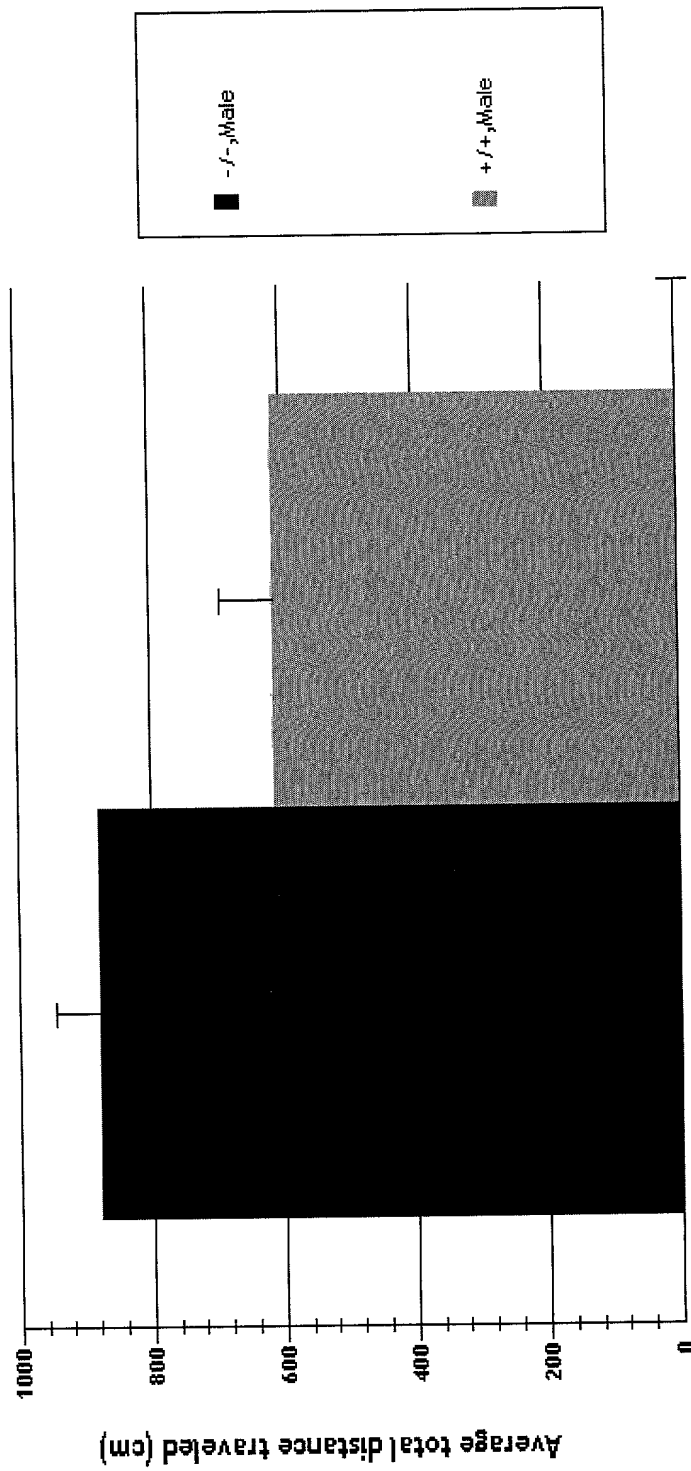**FIGURE 3**

Open Field Summary Data - Distance Travelled

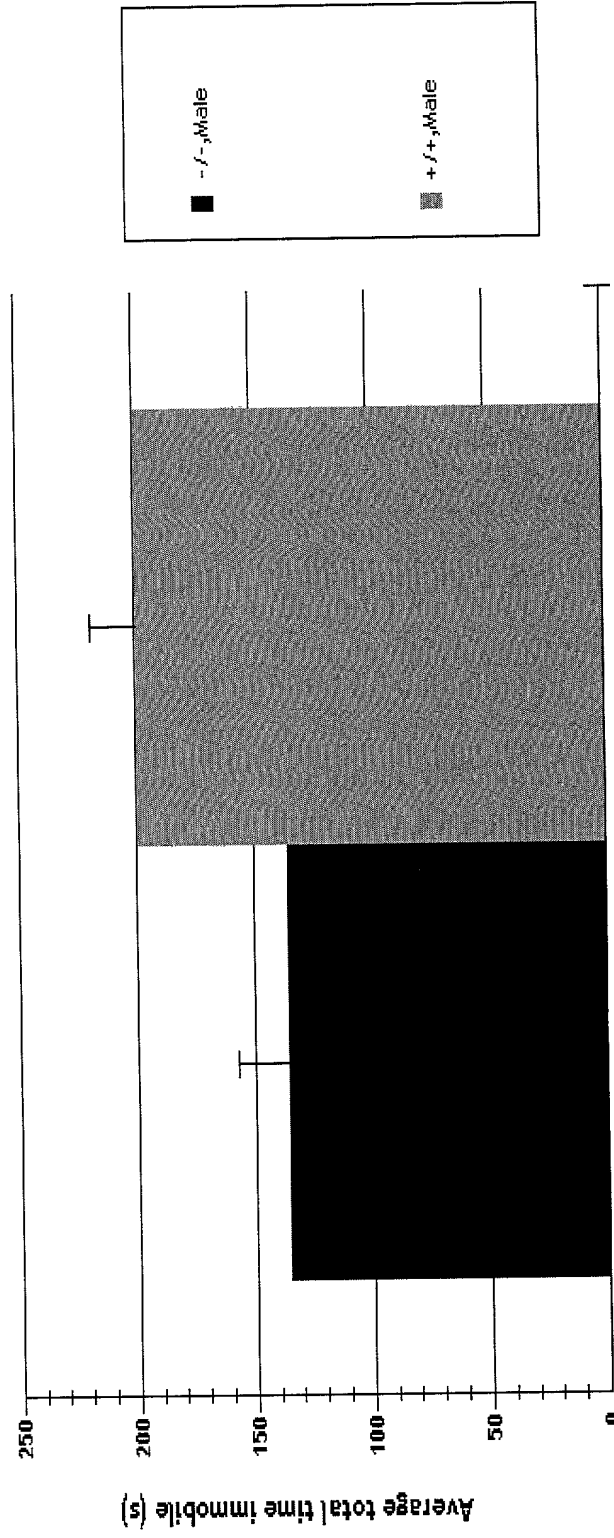**FIGURE 4**

Tail Suspension – Total Time Immobile

FIGURE 5